

## Sustaining Members

### Society of American Bacteriologists

ABBOTT LABORATORIES.....North Chicago, Ill.  
A. S. ALOE COMPANY

St. Louis, Mo., and Los Angeles, Cal.  
AMERICAN AGAR AND CHEMICAL Co. San Diego, Cal.  
AMERICAN CYANAMID COMPANY

Bound Brook, New Jersey  
AMERICAN INSTRUMENT Co., Inc., Silver Spring, Md.  
AMERICAN STERILIZER COMPANY.....Erie, Pa.  
ANHEUSER-BUSCH, INC.....St. Louis, Mo.  
ARMOUR LABORATORIES.....Chicago, Ill.  
BALTIMORE BIOLOGICAL LAB.....Baltimore, Md  
BAUSCH & LOMB OPTICAL Co.....Rochester, N. Y.  
THE BORDEN COMPANY...New York 17, New York  
BRAMHALL, DEANE COMPANY...New York, N. Y.  
CENTRAL SCIENTIFIC COMPANY.....Chicago, Ill.  
CLAY-ADAMS COMPANY, INC.....New York, N. Y.  
THE COCA-COLA COMPANY.....Atlanta, Ga.  
COLE CHEMICAL COMPANY.....St. Louis, Mo.  
THE COLEMAN AND BELL COMPANY...Norwood, Ohio  
CUTTER LABORATORIES.....Berkeley, Calif.  
DIFCO LABORATORIES, INC.....Detroit, Mich.  
DIVERSEY CORPORATION.....Chicago 4, Illinois  
FISHER SCIENTIFIC-EIMER AND AMEND

New York 14, N. Y.  
FLEISCHMANN LABORATORIES...New York, N. Y.  
GENERAL CHEMICAL COMPANY...New York, N. Y.  
THE GILLILAND LABORATORIES, INC., Marietta, Pa.  
HOFFMANN-LAROCHE, INCORPORATED

Nutley, New Jersey  
HYNSON, WESTCOTT & DUNNING...Baltimore, Md.  
INTERNATIONAL EQUIPMENT Co....Boston, Mass.  
KIMBLE GLASS COMPANY.....Vineland, N. J.  
LAMBERT PHARMACAL COMPANY...St. Louis, Mo.  
LEDERLE LABORATORIES, INC.....New York, N. Y.  
ELI LILLY & COMPANY.....Indianapolis, Ind.  
MEAD JOHNSON AND COMPANY...Evansville, Indiana  
MERCK AND COMPANY, INC.....Rahway, N. J.  
THE WILLIAM S. MERRELL Co....Cincinnati, Ohio  
NATIONAL ANILINE & CHEMICAL COMPANY, INC.

New York, N. Y.  
NATIONAL OIL PRODUCTS Co.....Harrison, N. J.  
NATIONAL SUGAR REFINING Co...New York, N. Y.  
NEW YORK MEDICAL EXCHANGE

New York 17, New York  
PARKE, DAVIS & COMPANY.....Detroit, Mich.  
PITMAN-MOORE COMPANY...Indianapolis, Indiana  
RADIO CORPORATION OF AMERICA

Camden, New Jersey  
REPUBLIC FILTERS, INC.....Paterson, N. J.  
S.M.A. CORPORATION.....Chicago, Ill.  
SCANLAN-MORRIS COMPANY.....Madison, Wisc.  
SCHIEFFELIN AND COMPANY.....New York, N. Y.  
SCHWARZ LABORATORIES, INC...New York 17, N. Y.  
JOSEPH E. SEAGRAM AND SONS, INC., Louisville, Ky.  
SEALTEST, INC.....New York, N. Y.  
SHARP AND DOHME, INC.....Philadelphia 1, Pa.  
SPENCER LENS COMPANY.....Buffalo, N. Y.  
THE TECHNICON COMPANY.....New York, N. Y.  
ARTHUR H. THOMAS COMPANY, Philadelphia, Pa.  
WALLACE AND TIERNAN PRODUCTS, INCORPORATED

Belleville, New Jersey  
WALLERSTEIN COMPANY, INC...New York 16, N. Y.  
WILLIAM R. WARNER AND Co....New York, N. Y.  
WILL CORPORATION.....Rochester, N. Y.  
WILMOT CASTLE COMPANY.....Rochester N. Y.  
WINTHROP CHEMICAL COMPANY...New York, N. Y.  
WISCONSIN ALUMINI RESEARCH FOUNDATION

Madison, Misc.  
WYANDOTTE CHEMICALS CORPORATION  
Wyandotte, Mich.  
JOHN WYETH AND BR., INC. ....Philadelphia, Pa.

## B-B-L

### TRYPTICASE

A dehydrated peptone prepared from casein  
by pancreatic (tryptic) digestion

A superior peptone for general use in media  
for cultivation of micro-organisms, *aerobic*  
and *anaerobic*, including *Clostridia*; and for  
the investigation of water, milk and other  
materials of sanitary importance.

TRYPTICASE is suitable for indol-testing  
because of the high tryptophane content; it  
is useful also for determining the ability of  
organisms to reduce nitrates.

An excellent nutritive material for ferment-  
ation, B-B-L TRYPTICASE contains no  
detectable carbohydrates.

#### BACTERIOLOGICALLY TESTED

#### B-B-L TRYPTICASE

Cat. No. 148

One pound bottle \$3.50

Quarter pound bottle \$1.15

**BALTIMORE**  
**BIOLOGICAL LABORATORY**  
500 North Calvert Street  
Baltimore-2, Maryland

## The ETIOLOGY DIAGNOSIS and TREATMENT of AMEBIASIS

By Charles F. Craig  
M.D., F.A.C.S., F.A.C.P.,  
Colonel, U. S. Army, retired

350 pages

illustrated

Authoritative. Craig's interesting,  
clear-cut presentation is accurately  
written, extensively documented and  
well indexed. The need of physicians  
is fully considered in the plan of the text.  
The material sets forth a—

Concise but thorough discussion of the  
definition, history and geographical dis-  
tribution of amebiasis.

Detailed presentation of the diagnosis,  
complications, and treatment prognosis  
of amebiasis.

Comprehensive tables and illustrations  
put the information you are looking for  
right under your thumb.

**\$4.50**

**THE WILLIAMS**  
**& WILKINS COMPANY**  
Baltimore 2, Md.

# BACTERIOLOGICAL REVIEWS

FOUNDED IN 1937

*Published by the* SOCIETY OF AMERICAN BACTERIOLOGISTS

---

VOLUME 9

*June, 1945*

NUMBER 2

---

*Editor*

BARNETT COHEN

The Johns Hopkins Medical School  
Baltimore 5, Md.

*Associate Editors*

GEORGE P. BERRY

N. PAUL HUDSON

W. C. FRAZIER

CARL S. PEDERSON

C. B. VAN NIEL



## *Contents*

Relation of Bacteria to Vitamins and Other Growth Factors.

W. H. PETERSON AND MARY S. PETERSON..... 49

# BACTERIOLOGICAL REVIEWS

*Manuscripts* should be sent to Prof. Barnett Cohen, 710 N. Washington St., Baltimore, Md. *One hundred reprints*, without covers, of articles will be furnished gratis to contributors when ordered in advance. A table showing cost of additional reprints, with an order slip, is sent with proof.

*Correspondence concerning business matters* should be addressed to The Williams & Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, U. S. A.

BACTERIOLOGICAL REVIEWS is issued quarterly in March, June, September, and December. The four numbers published in one calendar year constitute a volume.

The subscription price is \$4.00 per volume. For countries outside the Postal Union, add 50 cents a volume. Bacteriological Reviews is delivered free, however, to all subscribers to the Journal of Bacteriology.

*Claims for copies lost* in the mails must be received within 30 days (domestic). For the duration of the war, delivery overseas cannot be guaranteed and must be at subscriber's risk. Changes of address must be received within two weeks of the date of issue.

*Subscriptions should be renewed promptly*—To avoid a break in your series, subscriptions should be renewed promptly. The publishers cannot guarantee to supply back issues on belated renewals.

Subscriptions, new or renewal, should be sent to the Publishers or to Agents listed below.

## AGENTS

*For Australia:* Angus & Robertson, Limited, 89-95 Castlereagh Street, Sydney.

*For the British Empire, except Australia and Canada:* Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, W.C. 2, London; England.

*For Canada:* Wm. Dawson & Sons, Ltd., 70 King Street East, Toronto.

## THE WILLIAMS & WILKINS COMPANY

*Publishers of Scientific Books and Periodicals*

BALTIMORE, U. S. A.



PUBLISHERS OF: *Medicine, Journal of Urology, Journal of Pharmacology and Experimental Therapeutics, American Journal of Tropical Medicine, Journal of Immunology, Journal of Industrial Hygiene and Toxicology, Quarterly Review of Biology, Journal of Bacteriology, Chemical Reviews, Soil Science, Social Forces, Journal of Comparative Psychology, Occupational Therapy and Rehabilitation, The American Journal of Clinical Pathology, Journal of Physical Chemistry, Philosophy of Science, Journal of Organic Chemistry, Medical Classics, Bacteriological Reviews, Human Fertility, Medical Care, Psychosomatic Medicine, Gastroenterology.*